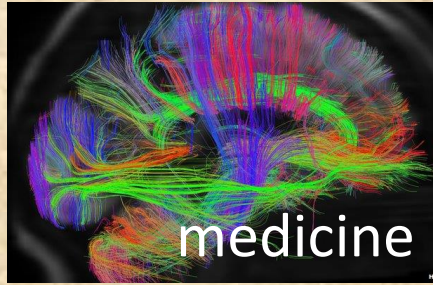
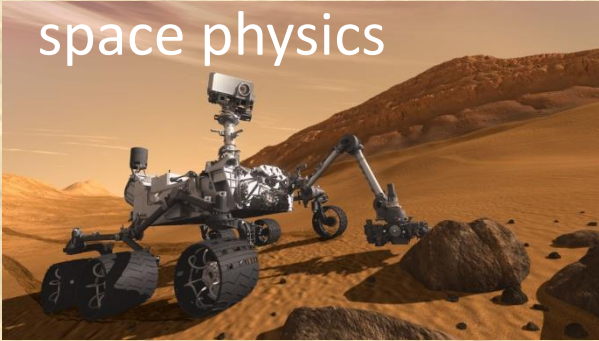


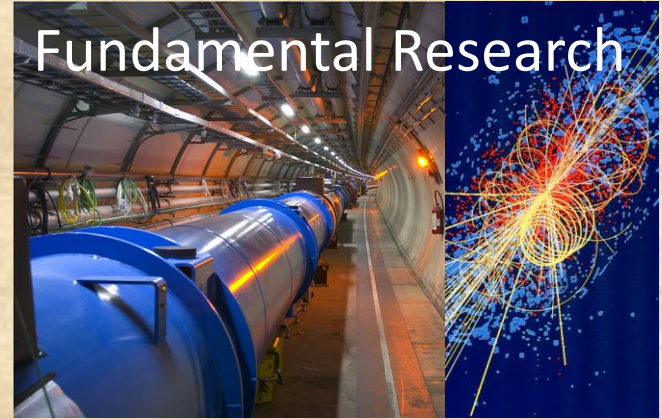
A Career in Physics

What do Physicists do?

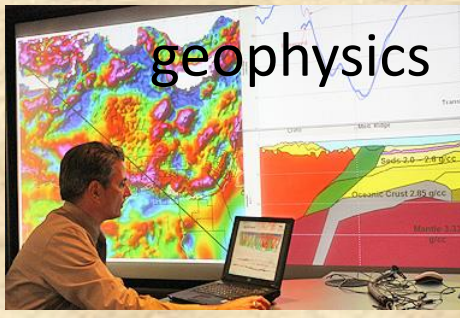
space physics



Fundamental Research



geophysics



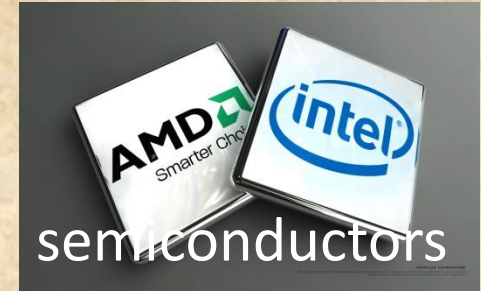
finance



defense



semiconductors



consultancy

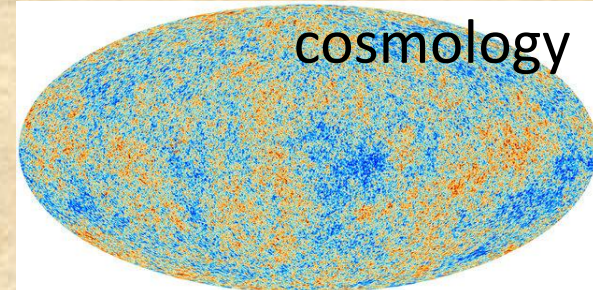
We're looking for computer specialists who like to solve difficult problems. Call us on this number now:

area = 044
switch = $(3 \exp 2) \cdot (10 \exp 2) - (3 \exp 1) \cdot (2 \exp 3)$
extension = $(2 \exp 3) \cdot (10 \exp 3)$
number = area || switch || extension

military

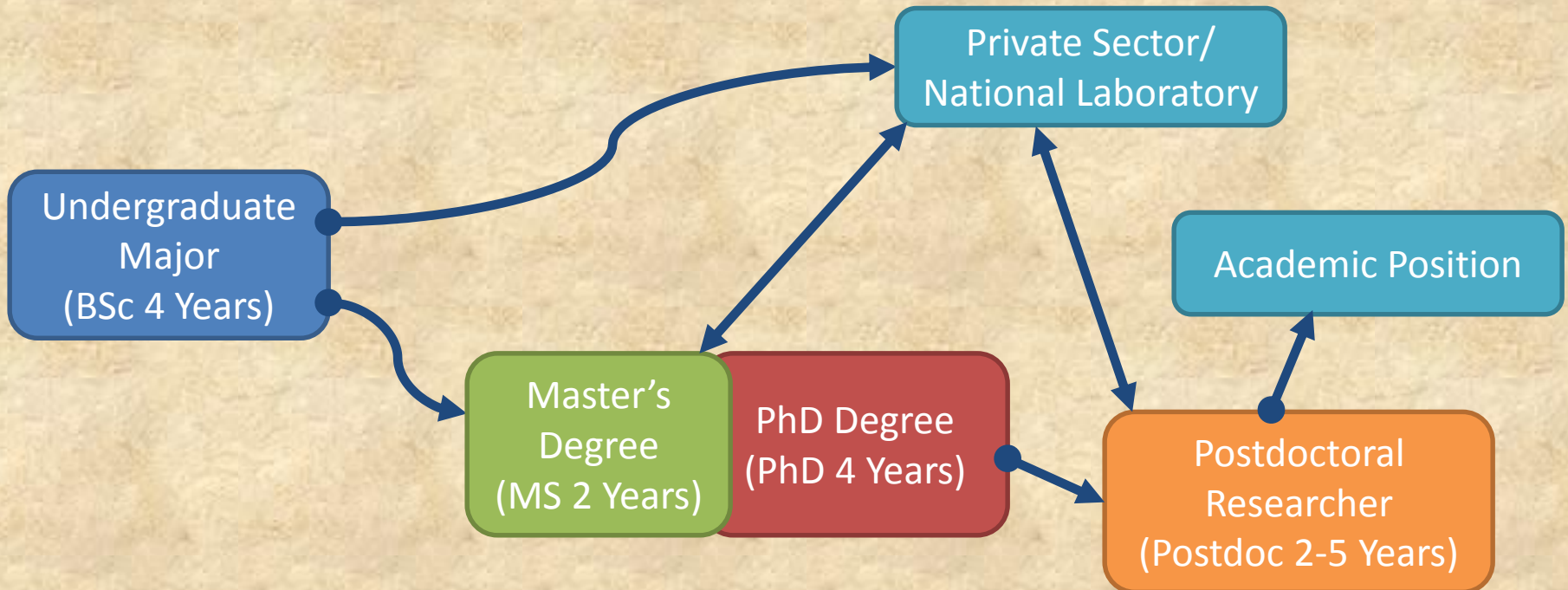


cosmology

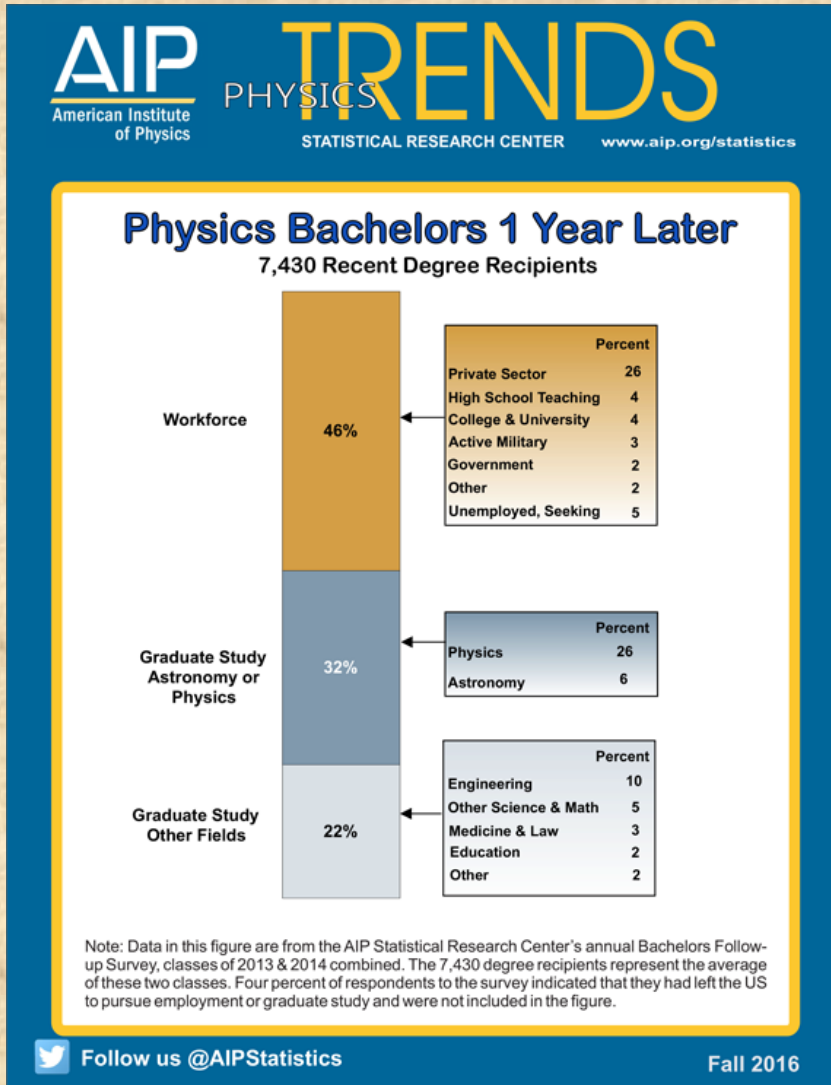


Physics as a Career

Traditional Path to Becoming a Professional Physicist



What happens right after graduation?



SIU Physics Majors:

- 50% attend graduate school in physics or related field after graduation.
- 42% enter the workforce after graduation.
- 8% work as a research scientist after graduation.

Undergraduate Research

Julianna Richie

2014 January: Undergraduate Women in Physics Conference at Chicago

2014 Spring: William Ballowe Physics Award

2014 Spring: Poster presentation@APS March Meeting (Denver)

2014 Summer: International Research Experience for Undergraduates

2014 August: Oral presentation@NanoJapan Research Symposium, Tokyo

Graduated Spring 2016

Present: Scientist@Naval Surface Warfare Center, Bloomington IN



Miller Eaton

2015 April : 2nd Place in SIU undergrad Research Town Hall Forum

2015 May : 1st Place in St. Louis Area Undergraduate Research Conference

2015/16 Summer: Internship@Oak Ridge National Laboratory

2016 Spring: Oral Presentation@APS March Meeting (New Orleans)

2017 Spring semester: Study abroad, Modena, Italy

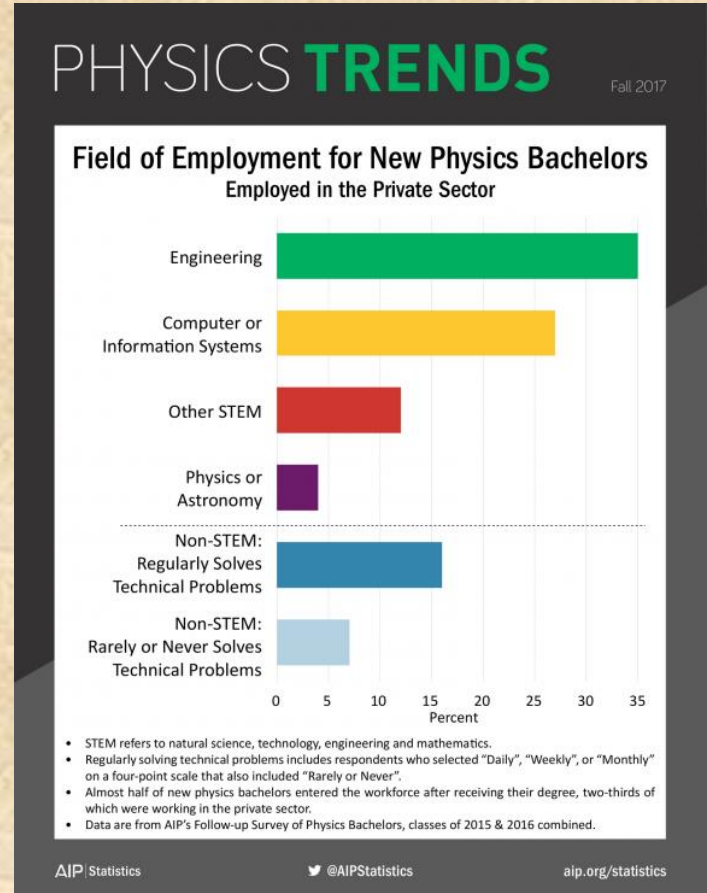
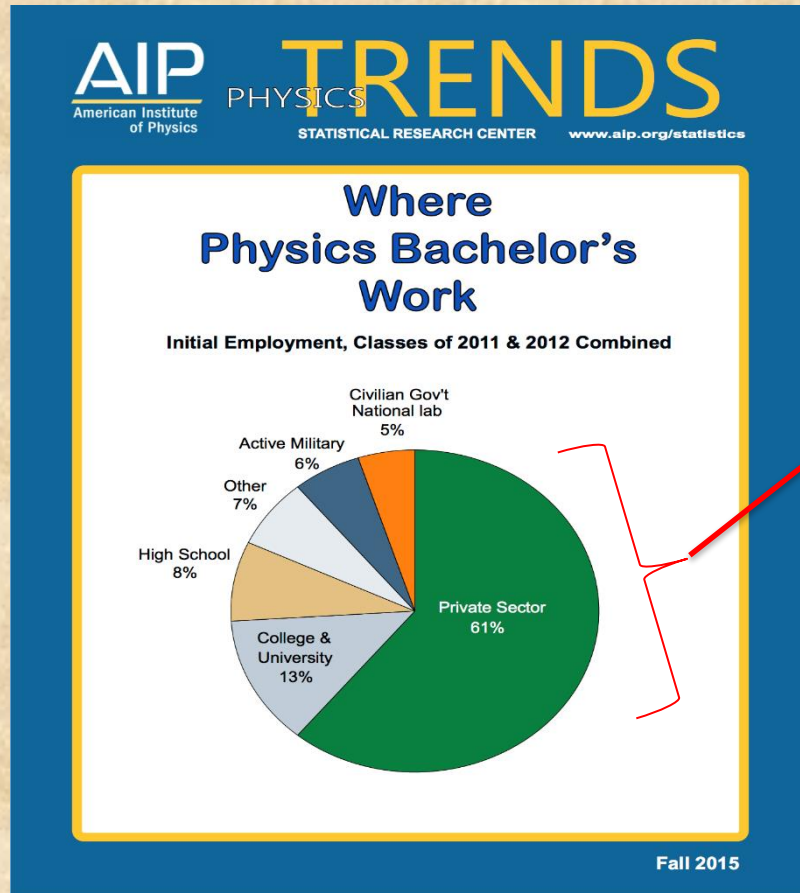
Graduated Spring 2017

Present: Graduate student in Physics (PhD), University of Virginia



Publications: 2D Materials **4**, 021002 (2017); Applied Physics Letters **108**,151107 (2016)

What Type of Employment for Physics BSc?



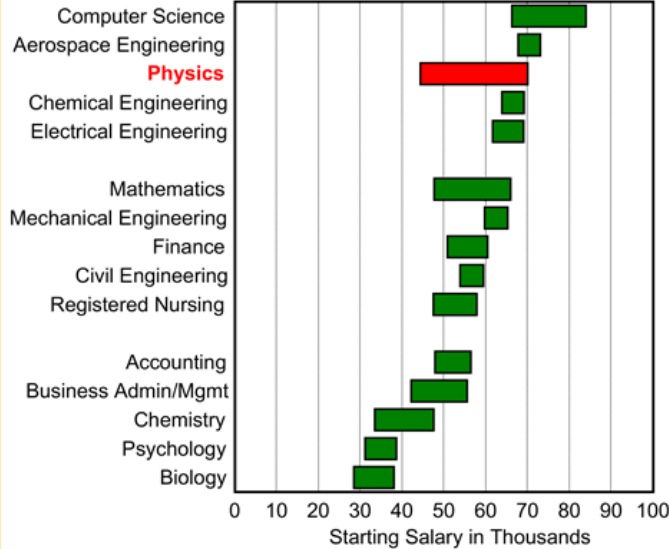
Physics majors experience low unemployment (<4%) and great salary prospects in a wide range of fields: many physics graduates get engineering job.

Competitive Salary Bracket

What's a Bachelor's Degree Worth?

Typical Salaries for Bachelor's Degree Recipients, Class of 2015

Bachelor's Field



Note: Typical salaries are the middle 50%, i.e. between the 25th and the 75th percentiles.

Reprinted from the Spring 2016 Salary Survey, with permission of the National Association of Colleges and Employers, copyright holder.

Starting Salaries for Physics Bachelor's Classes of 2011 & 2012 Combined

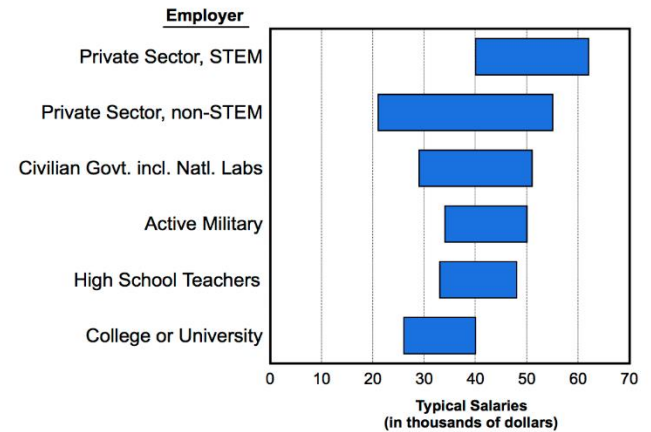


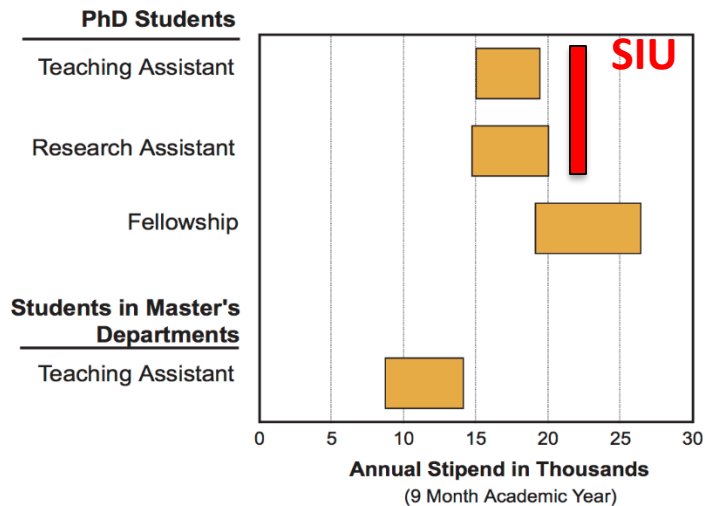
Figure includes only bachelor's in full-time, newly accepted positions.

Note: Typical salaries are the middle 50%, i.e. between the 25th and 75th percentiles. STEM refers to positions in Natural Science, Technology, Engineering, and Math.

What about going to **graduate** school ?

Typical Stipends

First-Year Physics Graduate Students

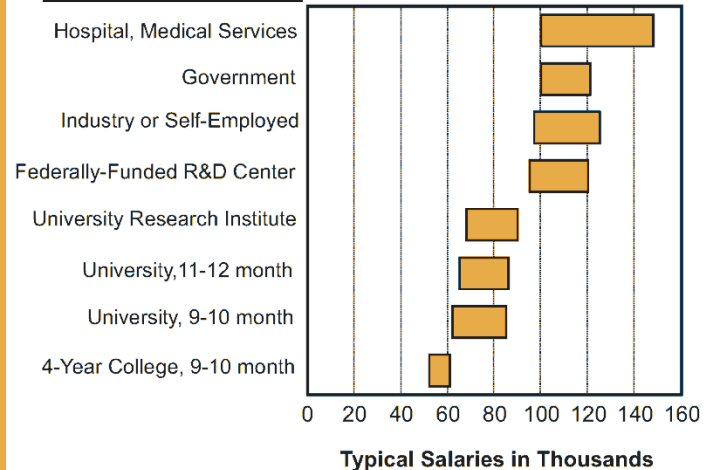


Typical stipends are the middle 50%, i.e., between the 25th and 75th percentiles.

Source: AIP Statistical Research Center, First-year Graduate Student Survey, 2009-10.

PhD Salaries 10 Years Later

Place of Employment



Typical salaries are the middle 50%, i.e. between the 25th and 75th percentiles, reported by US resident members of the 10 AIP Member Societies who earned their PhDs 10 to 14 years ago.

Source: AIP Statistical Research Center, 2006 Society Membership Survey

Wow! But I really want to work in medicine or law...



focus on

A publication of the AIP
Statistical Research Center

MCAT, LSAT and Physics Bachelor's

Data provided by Association of American Medical Colleges and the Law School Admission Council

Table 1

Average MCAT Scores by Selected Majors, 2009.

	Physical Sciences	Biological Sciences	Verbal reasoning	Number of applicants
Biomedical Engineering	10.9	10.7	9.6	1,005
Physics	11.1	10.3	9.6	207
Electrical Engineering	10.9	10.5	9.4	195
Economics	10.4	10.5	9.7	566
Neuroscience	9.9	10.6	9.5	1,066
Mathematics	10.3	10.1	9.6	374
English	9.4	9.9	10.3	434
Biochemistry	9.9	10.3	9.1	2,594
Chemistry	9.8	9.9	9.0	2,091
Microbiology (or Bacteriology)	9.0	9.9	8.7	775
Psychology	8.8	9.4	9.1	2,421
Biology	8.7	9.5	8.7	12,705
Premedical	8.3	9.0	8.4	663
All Majors	9.2	9.8	9.0	41,487

A physics bachelor's is an excellent entry degree for medical school.

The Medical College Admissions Test (MCAT) has three sections of standardized multiple choice questions (total of 219 items) with an additional writing sample comprised of two essays. Scores of 9.5 to 11 in each section are considered competitive by most medical schools.

Source: Association of American Medical Colleges, Data Warehouse

<http://www.aip.org/statistics>

The Law School Admission Test (LSAT) is a half-day, standardized test administered four times each year at designated testing centers throughout the world. All law schools approved by the American Bar Association require applicants to take the LSAT as part of their admission process.

Table 2

Average LSAT Scores* by Selected Majors, 2009.

	Mean score	Number of applicants
Physics	161.5	180
Mathematics	159.7	336
Economics	157.4	3,047
Electrical Engineering	156.3	546
Mechanical Engineering	156.0	427
Chemistry	155.7	355
English	154.7	5,120
Biology	154.5	1,055
Computer Science	154.0	682
Political Science	153.0	14,964
Psychology	152.5	4,355
Pre Law	148.3	1,078
Criminal Justice	145.5	3,306
All Majors	152.6	81,530

Physics bachelor's receive higher scores on the LSAT than other undergraduate majors.

*The scores in the table are for individuals who applied to Law school for the 2007-08 academic year. All test takers are not represented. Individuals may have taken the LSAT months or possibly years earlier.

Source: AIP Statistical Research Center compiled data from the Law School Admission Council, Newton PA.

<http://www.aip.org/statistics>

Contact Patrick Mulvey for more information.

...And I also want to stay close to my family

Why Study Physics? Future of a Physicist with a BS.

Employers in Illinois that recently hired new physics bachelor recipients

Accenture
 Aerotek Scientific
 Aisin Electronics Illinois, LLC
 Analysts, Inc.
 Argonne National Lab
 Army Corps of Engineers
 Beckman Institute (University of Illinois)
 Caterpillar, Inc.
 CONTAX, Inc.
 Creative Thermal Solutions
 CSG Systems
 Delcross Technologies, LLC
 Deloitte Consulting, LLP
 Exelon
 Fermi National Lab
 Fuji Machine America Corporation
 GMS / Vedior
 Greenlight Planet, Inc.
 Highland Engineerin, P.C.
 Imaje
 Leo Burnett
 Lockheed Martin
 Northrop Grumman
 Orchid Tree Web Solutions
 Quantum Design
 S&C Electric Company
 Sargent & Lundy
 United Conveyor Corporation
 Val-Matic Valve & Manufacturing Corporation
 Wellpoint, Inc.
 Zurich North AmericaS&C



This is only a portion of the employers who hired recent physics bachelors into technical positions.
 Source: AIP Statistical Research Center, Initial Employment Surveys, classes 2007 thru 2009.

Society of Physics Students (SPS) & Physics Club



- Help with homework/studying
- Community outreach including local science fairs
- Assist and participate in astronomy observations
- Trips to national laboratories (Argon, Fermi, Berkley)
- SPS and Physics Club is tons of fun, great for your resume, and great for your education!

Email: Chapter President, Sean Goff

sgoff95@siu.edu

Meetings: Every other Monday in Neckers 456
(Physics Lounge)

Saluki Astronomy Association



PUBLIC ASTRONOMY OBSERVATIONS

WINTER 2017 - SPRING 2018

HOSTED BY SIU PHYSICS &
SALUKI ASTRONOMY ASSOCIATION

OBSERVATION TIMES

Sunday, Nov 12	5pm - 7pm @ Neckers
Sunday, Dec 10	8:30pm - 10pm @ Farms
Sunday, Jan 21	6:30pm - 8pm @ Neckers
Sunday, Feb 18	7:30pm - 9pm @ Farms
Sunday, Mar 4	7:30pm - 9pm @ Neckers
Sunday, Apr 22	8pm - 9:30pm @ Neckers
Sunday, May 6	8:30pm - 10pm @ Neckers

Contact: Prof. Naushad Ali, Chair
[Physics Department](#)
Southern Illinois University Carbondale

Tel. 618 453 1054
Email: nali@physics.siu.edu
<http://www.physics.siu.edu>

Flexible Degree Program

- Traditional physics
- Materials physics
- Computational physics
- Biophysics

Scholarships and Research Opportunities

- Scholarships available
- Paid work experience
- Class credit for doing research
 - >80% of SIU physics majors do research
- >25% of SIU physics majors are co-authors on published journal articles

Department Research Topics

